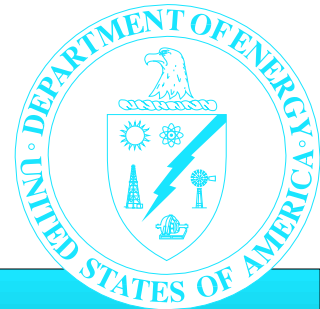


Argonne National Laboratory – West

Safeguards and Security Profile Summary Analysis

July 1997



Office of Environment, Safety and Health

1.0

Introduction

The Department of Energy (DOE), Office of Environment, Safety, and Health, conducted a review in July 1997 to determine the status of safeguards and security at the Argonne National Laboratory-West, which is administered by the DOE Chicago Operations Office. This review was part of a recent initiative by the Assistant Secretary for Environment, Safety, and Health to characterize the current status of safeguards and security programs throughout the Department. The Assistant Secretary for Environment, Safety, and Health utilizes the Office of Oversight to provide the Secretary of Energy with independent assessments of the Department's performance in the areas of environmental protection, safety, health, and security. This document describes significant aspects of the safeguards and security posture at Argonne National Laboratory-West observed during this review.

2.0

Background

Location

Argonne National Laboratory-West is a complex of laboratories, research installations, and administrative buildings located in southeastern Idaho, some 35 miles west of Idaho Falls and 65 miles northeast of Pocatello. Argonne National Laboratory-West lies within the confines of the DOE Idaho National Engineering and Environmental Laboratory, an 890 square mile reservation set aside for a wide variety of research programs.

Mission

Argonne National Laboratory-West is a component of DOE's Chicago-based Argonne National Laboratory, a University of Chicago operated facility dedicated to nuclear research and development. The original Argonne National Laboratory-West mission revolved around the testing and development of advanced nuclear reactor technology. With the termination of

funding for the DOE Liquid Metal Reactor program in 1995, Argonne National Laboratory-West began a search for new missions. Current prospective missions include creating technology centers for such technical areas as nonproliferation, spent nuclear fuel and waste treatment, reactor and fuel conditioning, and nuclear decontamination and decommissioning.

Security Assets/Interests

As a legacy of its reactor research programs, Argonne National Laboratory-West retains significant quantities of special nuclear material in attractive forms. Although Argonne National Laboratory-West has consolidated its most sensitive material in high security storage locations, limited-scale processing of special nuclear material takes place on an occasional basis. Various Argonne National Laboratory-West facilities also contain lesser quantities of radioactive materials. Argonne National Laboratory-West possesses only limited amounts of classified or sensitive information.

Protection Strategy

The Argonne National Laboratory-West protection strategy is designed to protect DOE security interests through operational linkages between the protective force, physical security systems, nuclear material control and accountability procedures, information security controls, and personnel security measures. Argonne National Laboratory-West employs a

layered protection strategy to protect the site's security interests. The boundary of the Argonne National Laboratory-West site is designated as a Property Protection Area, although the access controls, barriers, and intrusion detection systems employed at this layer are greater than those usually associated with the property protection function. All Argonne National Laboratory-West facilities except the TREAT reactor are enclosed within this Property Protection Area. The second layer of protection is the Protected Area, a security zone that encompasses Argonne National Laboratory-West's two major special nuclear material storage and processing facilities. These two material access areas constitute the third layer of protection, and the vaults within these areas constitute the fourth and final layer. The protective force responds to intrusion detection alarms with armed Security Police Officers and, when indicated, with specially trained tactical response teams. These physical protection elements are reinforced by administrative and managerial elements, such as information security or personnel security procedures, that round out the overall protection strategy.

3.0

Results of Past Safeguards and Security Reviews

The 1996 Chicago Operations Office survey assigned SATISFACTORY ratings to all topical areas associated with the protection of special nuclear material. In drawing this conclusion, the Chicago Operations Office report relied heavily upon the 1996 Office of Security Evaluations management evaluation, noting that Argonne National Laboratory-West had corrected the problems highlighted by the Office of Security Evaluations in its report. Survey and self-assessment ratings for the protection of classified and sensitive information have also generally been positive, although neither the Chicago Operations Office surveys nor the Argonne National Laboratory-West self-assessments have included the unclassified computer security program.

Positive Trends and Initiatives

The major positive program attributes identified in conjunction with this profile centered upon the overall capabilities of safeguards and security program personnel. Chicago Operations Office and Argonne National Laboratory-West managers cite staff competence, experience, and stability as key reasons for successful mission fulfillment. Managers also viewed the recent development of an in-house special response team capability as an enhancement to the overall protection posture.

The most notable recent Argonne National Laboratory-West program initiatives include the acquisition of mission-essential tactical equipment for the protective force, increased training in particular tactical specialties, and upgrades to the safeguards accounting system data base to track nuclear material inventory by item rather than by batch. These recent initiatives reflect the increased emphasis that Argonne National Laboratory-West managers now place upon safeguards and security.

Issues Warranting Management Attention

No significant weaknesses were noted in the overall implementation of the safeguards and security program at Argonne National Laboratory-West. Argonne National Laboratory-West safeguards and

security managers have corrected the specific problems noted in the 1992 and 1996 Office of Security Evaluations evaluations. The Argonne National Laboratory-West safeguards and security program, as currently implemented, has achieved measurable improvements in overall protection effectiveness.

There remains, however, a variety of issues warranting management attention. The first of these concerns the need for more extensive and rigorous performance testing of the measures used to protect unclassified computer security systems. The results of performance testing conducted as part of data collection for this profile indicated that a more proactive approach to identifying potential weaknesses would benefit the overall effectiveness of the unclassified computer security program.

The second and third issues both relate to the nuclear material control and accountability program. While the existing Argonne National Laboratory-West nuclear material accounting system is structured in a manner consistent with DOE orders, it is cumbersome to operate and labor-intensive. Argonne National Laboratory-West is currently caught between the effort to achieve system modernization by developing its own system and the DOE Headquarters emphasis upon adoption of the Local Area Network Material Accountability System, which, despite developmental difficulties, is still being promoted as the Departmental standard. Resolution of

this issue will contribute to the overall efficiency of the material control and accountability measurement program. Additionally, Argonne National Laboratory-West is currently unable to perform accountability measurements on portions of its nuclear material inventory, particularly irradiated fuels. Resolution of this issue is a prerequisite for the disposition of these materials.

A fourth issue concerns the need to more completely analyze potential consequences associated with a sabotage attempt during the movement of radiological or toxicological materials. This more thorough analysis would enable Argonne National Laboratory-West to improve its security planning and procedures.

The fifth and final management issue relates to the need for a procedure for the removal of individuals in the personnel security assurance program from their duties relevant to this program whenever their annual certification requirements

are not met. The recent significant expansion of the number of Argonne National Laboratory-West personnel included in the personnel security assurance program means that the informality that has previously existed in this area is no longer sustainable. A formal procedure is needed to ensure the timely removal of personnel who are not current in fulfilling program requirements.

The overall picture at Argonne National Laboratory-West is one of progress in establishing a more effective safeguards and security program. The issues highlighted here represent areas in which Argonne National Laboratory-West safeguards and security management can achieve further program improvements. Above all, management needs to maintain its current emphasis upon providing effective physical protection for the significant national security assets at Argonne National Laboratory-West.